



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/694,855	10/24/2000	Robert M. Amici	00077	3438

7590 12/18/2002

Martha Ann Finnegan, Esq.  
Law Department  
CABOT CORPORATION  
157 Concord Road  
Billerica, MA 01821-7001

EXAMINER

TRA, TUYEN Q

ART UNIT	PAPER NUMBER
----------	--------------

2873

DATE MAILED: 12/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/694,855

Applicant(s)

AMICI ET AL.

Examiner

Tuyen Q Tra

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,3-9,11-17 and 22-29 is/are allowed.
- 6) ☒ Claim(s) 2,10,18 and 19 is/are rejected.
- 7) ☒ Claim(s) 20 and 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

Applicant's arguments with respect to claims 1-29 have been considered but are moot in view of the new ground(s) of rejection.

#### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims **2**, **18** and **19** are rejected under 35 U.S.C. 102(e) as being anticipated by Cooke et al. (U.S. Pat. 6,479,571 B1).

a) With respect to claims **2** and **19**, Cooke et al. discloses a modified carbon product comprising of an arrangement of particles, wherein an optical response results from the rotation of the particles in a fluid, wherein a portion of the particles have attached at least one organic group having an ionic group, ionizable group or both; wherein the particle are black carbon (col. 3, lines 49-65).

b) With respect to claim **18**, Cooke et al. discloses wherein the particle are colored pigments and wherein the organic group comprises at least one aromatic group, at least one C1-C100 alkyl group, or mixture thereof (col. 7, lines 59-63).

Art Unit: 2873

*Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. (US Patent 5,922,188 A) in view of Jacobson et al. (U.S. Pat. 6,241,921 B1).

Johnson et al. discloses a modified colored pigment comprising an arrangement of particles, wherein an optical response results from the rotation of the particles in a fluid, wherein a portion of the particles have attached at least one organic group having an ionic group, ionizable group or both. However, Johnson et al. does not disclose means to cause the controlled rotation. Within the same field of endeavor, Jacobson et al. discloses a display element with display particles and means (370, Fig. 3E) for rotating the particles.

It would have been obvious, therefore, at the time the invention was made to a person having skill in the art to construct the particles having attached at least one organic group such as disclosed by Johnson et al., with means for rotating the particles such as disclosed by Jacobson et al., for purpose of displaying color.

*Allowable Subject Matter*

5. Claims 1, 3-9, 11-17 and 22-29 are allowed.

The reason for the indication of allowable subject matter is that (claims 1, 5) bichromal ball having two hemispheres, modified colored pigment having attached at least one organic group, and each hemisphere has different color and electrical properties; (claims 6, 7, 9, 11, 12)

Art Unit: 2873

bichromal ball having segments, modified colored pigment having attached at least one organic group, and each segment has different color and electrical properties.

6. Claims 20 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The reason for the indication of allowable subject matter is that (claim 20) the at least one group comprises  $-X-Sp-[Nion]pR$ ,  $-X-Sp-[(-CH_2)_m-O-]p-R$ , or  $-X-Sp-[polymer]R$ , wherein X represents an aromatic group or an alkyl group, Nion represent at least one non-ionic group, Sp represents a spacer group, R represents hydrogen, an aromatic group, or an alkyl group, p is an integer of from 1 to 500, m is an integer of from 1 to 12, and "polymer" comprises repeating monomer groups or multiple monomer groups; (claim 21) the particle having attached at least one group comprises  $-X-Sp-[A]pR$ , wherein X represents an aromatic group or an alkyl group, Sp represents a spacer group, A represents an alkylene oxide group of from about 1 to 12 carbons, p represents an integer of from 1 to 500, and R represents hydrogen, a substituted or unsubstituted alkyl group, or a substituted or unsubstituted aromatic group disclosed in the claims is not found in the prior art.

### *Conclusion*

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuyen Tra whose telephone number is (703) 306-5712. The examiner can normally be reached on Monday to Friday from 8:30am to 6:00pm.

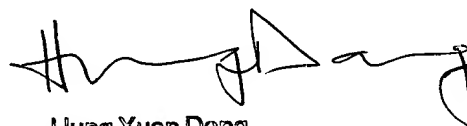
Art Unit: 2873

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps, can be reached on (703) 308-4883. The fax number for this Group is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Examiner: Tuyen Tra

Date: December 6, 2002

A handwritten signature in black ink, appearing to read 'Hung Xuan Dang', with a stylized, flowing script.

Hung Xuan Dang  
Primary Examiner